

Mineral Industry Surveys

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MOLYBDENUM IN SEPTEMBER 2003

Domestic production of molybdenum in concentrate in September 2003 was about 12% less than that of the previous month and was about 4% more than that of September 2002, according to the U.S. Geological Survey. Year-to-date production of molybdenum in concentrate from January through September was about 8% more than during the same period in 2002. Producer stocks of molybdenum in concentrate, oxide, and other product forms were about 8,250 metric tons (t) at the beginning of 2003 and 5,300 t at the end of September.

According to Ryan's Notes (2003b), the September monthly averages for U.S. ferromolybdenum (FeMo) prices ranged from \$6.828 to \$7.000 per pound of molybdenum content, as compared with \$6.200 to \$6.400 in August. European FeMo monthly averages ranged from \$15.217 to \$15.461 per kilogram of molybdenum content in September as compared with \$14.000 to \$14.322 in August. In September, worldwide molybdenum oxide (MoX) prices ranged from \$6.050 to \$6.239 per pound versus \$5.467 to \$5.689 in August.

Molybdenum oxide and FeMo prices rose during the month and firmed by the end of September. U.S. Dealer Oxide prices ranged from \$6.00 to \$6.30 per pound in the last week of September. European FeMo prices were booked at \$15.15 to \$15.50 per kilogram through online tenders, and Chinese material was offered at just over \$15.00 per kilogram. Some consumers attempted to buy forward at just under \$15.00 per kilogram. Traders reportedly took this as a sign that consumers do not expect prices to drop and are trying to protect themselves from future price hikes (Ryan's Notes, 2003a).

Canada's Endako Mine near Fraser Lake, British Columbia, has almost completely recovered from a 3-million-metric-ton rockslide that occurred on December 10, 2002, near its in-pit crusher (Platts Metals Week, 2003). "Prices continued to help us recover from the four and a half years they were very low," said vice-president and general manager Alan Morrish. The mine was near closure 2 years ago and was able to stay open only when about one-half of its electricity costs were deferred.

The market was watching for signs of increased production from the major producers, but through the end of September there were no indications of ramp-up (Ryan's Notes, 2003a). Molycorp, Inc. (Molycorp) said it would likely produce less than the 1,720 t of molybdenum in ore (3.8 million pounds) it produced in 2002. Through September, Molycorp had produced about 770 t (1.7 million pounds) in 2003 with the mine and mill being operated separately at 6-month intervals. Chilean producer Corporacion Nacional del Cobre, Chile (Codelco) reported it planned to produce about 23,000 t of molybdenum in ore (50-51 million pounds) in 2003, about equal to its 2001 production. Codelco reduced its 2002 production of ore to stabilize copper prices.

References Cited

- Platts Metals Week, 2003, Endako moly running well: Platts Metals Week, v. 74, no. 38, September 22, p. 13.
Ryan's Notes, 2003a, Ferroalloy notes: Ryan's Notes, v. 9, no. 39, September 29, p. 3, 4.
Ryan's Notes, 2003b, [untitled]: Ryan's Notes, v. 9, no. 40, October 6, p. 4.

TABLE 1
U.S. SALIENT MOLYBDENUM CONCENTRATE STATISTICS¹

(Metric tons, contained molybdenum)

	2002	2003		Year to date
	January-December	August ^r	September	
Production	32,400	3,260	2,870	25,600
Shipments: ²				
Domestic	21,200	1,400	922	9,660
Export	11,100	1,610	2,110	15,900

^rRevised.

¹Data are rounded to no more than three significant digits.

²As reported by producers.

TABLE 2
U.S. REPORTED PRODUCTION AND SHIPMENTS OF MOLYBDENUM PRODUCTS¹

(Metric tons, contained molybdenum)

	2002	2003		Year to date
	January-December	August	September	
Gross production	31,300	4,160	2,280	29,500
Internal consumption ²	20,700	2,870	1,950	21,600
Gross shipments	27,500	3,160	2,980	23,000

¹Data are rounded to no more than three significant digits.

²Includes molybdic oxides, metal powder, ammonium molybdate, sodium molybdate, and other.

TABLE 3
U.S. REPORTED CONSUMPTION, BY END USES, AND CONSUMER STOCKS OF MOLYBDENUM MATERIALS¹

(Kilograms, contained molybdenum)

End use	Molybdc oxides	Ferro- molyb- denum ²	Ammonium and sodium molybdate	Molyb- denum scrap	Other	Total
2003, August:						
Steel:						
Carbon	10,700	W	--	--	W	10,700
High-strength low-alloy	26,700 ^r	8,210 ^r	--	--	--	34,900 ^r
Stainless and heat-resisting	157,000	62,200	--	--	7,180	226,000
Full alloy	105,000 ^r	170,000	--	--	1,860	276,000 ^r
Tool	47,300	W	--	--	W	47,300
Total	347,000 ^r	240,000	--	--	9,040	596,000 ^r
Cast irons (gray, malleable, and ductile iron)	W	14,700 ^r	--	--	763	15,500
Superalloys	74,700	W	--	(3)	95,000	170,000
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	6	6
Other alloys	304	2,690	--	--	2,610	5,610
Mill products made from metal powder ⁴	--	--	--	--	87,400	87,400
Cemented carbides and related products ⁵	--	--	--	--	--	--
Chemical and ceramic uses:						
Pigments	--	--	W	--	--	W
Catalysts	77,300	--	W	--	W	77,300
Other chemicals	--	--	--	--	1,210 ^r	1,210 ^r
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	17,900	17,900
Other	1,090	36,200 ^r	75,800 ^r	--	17,400 ^r	130,000 ^r
Grand total	500,000 ^r	294,000 ^r	75,800 ^r	--	231,000	1,100,000
Stocks, August 31, 2003	377,000 ^r	175,000	5,070 ^r	17,900	849,000	1,420,000 ^r
2003, September:						
Steel:						
Carbon	11,500	W	--	--	W	11,500
High-strength low-alloy	27,100	7,620	--	--	--	34,700
Stainless and heat-resisting	152,000	64,400	--	--	7,180	223,000
Full alloy	103,000	170,000	--	--	1,860	276,000
Tool	55,300	W	--	--	W	55,300
Total	349,000	242,000	--	--	9,040	600,000
Cast irons (gray, malleable, and ductile iron)	W	15,000	--	--	763	15,800
Superalloys	59,700	W	--	(3)	84,600	144,000
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	6	6
Other alloys	235	2,050	--	--	2,610	4,890
Mill products made from metal powder ⁴	--	--	--	--	104,000	104,000
Cemented carbides and related products ⁵	--	--	--	--	W	--
Chemical and ceramic uses:						
Pigments	--	--	W	--	--	W
Catalysts	77,300	--	W	--	W	77,300
Other chemicals	--	--	--	--	1,600	1,600
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	15,800	15,800
Other	1,090	34,000	75,800	--	17,400	128,000
Grand total	487,000	294,000	75,800	--	236,000	1,090,000
Stocks, September 30, 2003	349,000	162,000	5,360	8,480	851,000	1,380,000

^rRevised. W Withheld to avoid disclosing company proprietary data; included in "Other" of the "Miscellaneous and unspecified uses" category. -- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes calcium molybdate.

³Included in "Other" of the "Superalloys" category.

⁴Includes ingot, wire, rod, and sheet.

⁵Includes construction, mining, oil and gas, metal working machinery.

TABLE 4
U.S. EXPORTS OF MOLYBDENUM ORES AND CONCENTRATES
(including roasted concentrate), BY COUNTRY¹

(Kilograms, contained molybdenum)

Country	2002	2003		Year to date
	January-December	July	August	
Australia	46,900	11,400	38,000	73,400
Belgium	4,380,000	518,000	139,000	2,170,000
Brazil	32,600	3,300	2,360	30,500
Canada	1,080,000	144,000	18,100	780,000
Chile	16,200	--	--	14,200
China	56,700	534	725	3,620
Germany	64,400	--	--	1,440
India	141,000	--	--	11,300
Italy	47,900	--	--	15,200
Japan	1,130,000	203,000	167,000	1,320,000
Korea, Republic of	70,600	7,040	7,950	52,400
Mexico	484,000	714,000	344,000	3,020,000
Netherlands	7,330,000	1,030,000	1,320,000	6,690,000
Spain	41,200	--	4,130	4,130
Sweden	35,000	--	--	25,700
Taiwan	12,600	--	--	9,590
United Kingdom	4,330,000	578,000	1,140,000	4,390,000
Other	153,000	2,090	6,610	95,400
Total	19,500,000	3,210,000	3,200,000	18,700,000

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.

TABLE 5
U.S. EXPORTS OF FERROMOLYBDENUM, BY COUNTRY¹

(Kilograms, contained molybdenum)

Country	2002	2003		Year to date
	January-December	July	August	
Australia	--	--	--	546
Canada	597,000	33,900	41,000	281,000
Chile	240	--	--	--
Denmark	5,110	--	241	241
Japan	--	--	--	61
Mexico	51,400	--	11,700	19,300
Netherlands	--	--	--	25,500
Switzerland	21,800	--	--	--
Taiwan	274	--	--	--
Total	676,000	33,900	53,000	326,000

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF MOLYBDENUM PRODUCTS¹

(Kilograms, unless otherwise specified)

Material	January-December 2002			August 2003		
	Gross weight	Contained molybdenum	Value (c.i.f.) (thousands)	Gross weight	Contained molybdenum	Value (c.i.f.) (thousands)
Ore and concentrates roasted	7,030,000	4,370,000	\$33,500	607,000	384,000	\$4,610
Ore and concentrates other	664,000	340,000	3,450	278,000	126,000	1,400
Molybdenum chemicals:						
Oxides and hydroxides	1,200,000	NA	7,660	70,200	NA	737
Molydates of ammonium	1,740,000	1,010,000	11,200	160,000	94,900	1,350
Molydates (all others)	435,000	88,600	1,630	4,730	1,200	26
Molybdenum orange	1,300,000	NA	5,490	61,100	NA	302
Ferromolybdenum	5,570,000	3,590,000	31,400	578,000	350,000	4,050
Molybdenum powders	39,500	31,700	1,110	5,180	2,760	173
Molybdenum unwrought	43,500	43,200	542	28,300	28,100	380
Molybdenum waste and scrap	697,000	617,000	6,910	13,500	13,100	162
Molybdenum wire	14,600	NA	697	479	NA	45
Molybdenum other	84,800	NA	7,240	9,030	NA	625
Total	18,800,000	10,100,000	111,000	1,810,000	1,000,000	13,900

NA Not available.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.